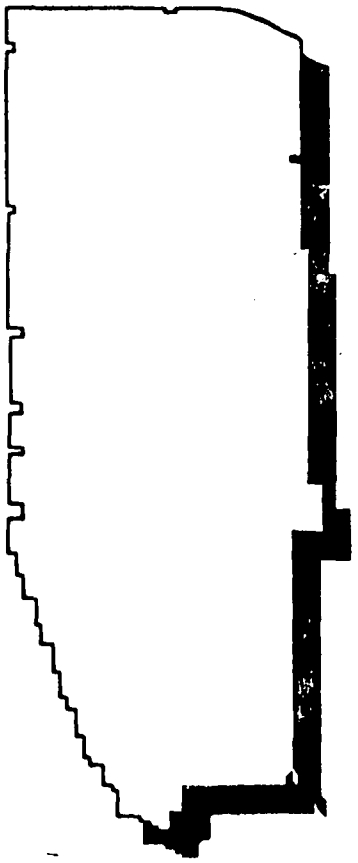
ABOUT WHITE SANDS MISSILE RANGE



- TRI-SERVICE RANGE (NAVY, ARMY, AIRFORCE)
- MANAGED BY THE ARMY (BRIGADIER GENERAL RICHARD W. WHARTON)
- LARGEST U.S. OVERLAND TEST RANGE
  - APPROXIMATELY 40x100 MILES
  - ALTITUDE APPROXIMATELY 4,000 FT MSL
- PRECISION FIXED AND MOBILE INSTRUMENTATION (RADAR, TELEMETRY, PHOTOGRAPHY, GPS, ETC.)
- USUALLY GOOD WEATHER (350 DAYS OF SUNSHINE)
- HISTORICAL SIGNIFICANCE (ATOMIC BOMB, V2 ROCKET, TALOS, STANDARD MISSILE)
- SAN ANDRES WILDLIFE REFUGES
- THREATENED, ENDANGERED & CANDIDATE SPECIES (35 SPECIES LISTED)
- HISTORICAL & ARCHEOLOGICAL SITES (OVER 1000)

NAVY PROGRAMS

SURFACE/AIR MISSILES

- STANDARD MISSILE BLOCK III PSR
- STANDARD MISSILE BLOCK IIIA
- STANDARD MISSILE BLOCK IIIB
- STANDARD MISSILE BLOCK IV
- STANDARD MISSILE NAVY LEAP
- ROLLING AIRFRAME MISSILE (RAM)
- NATO SEA SPARROW MISSILE

SURFACE/SUBSURFACE

- SEALANCE
- VERTICAL LAUNCH ASROC

SURFACE GUN WEAPONS

- FUTURE GUN TECHNOLOGY
- GUNLINE

AIR/SURFACE WEAPONS

- STANDOFF LAND ATTACK MISSILE
- NAVAL AIR WEAPONS TEST
- NAVY AMRAAM

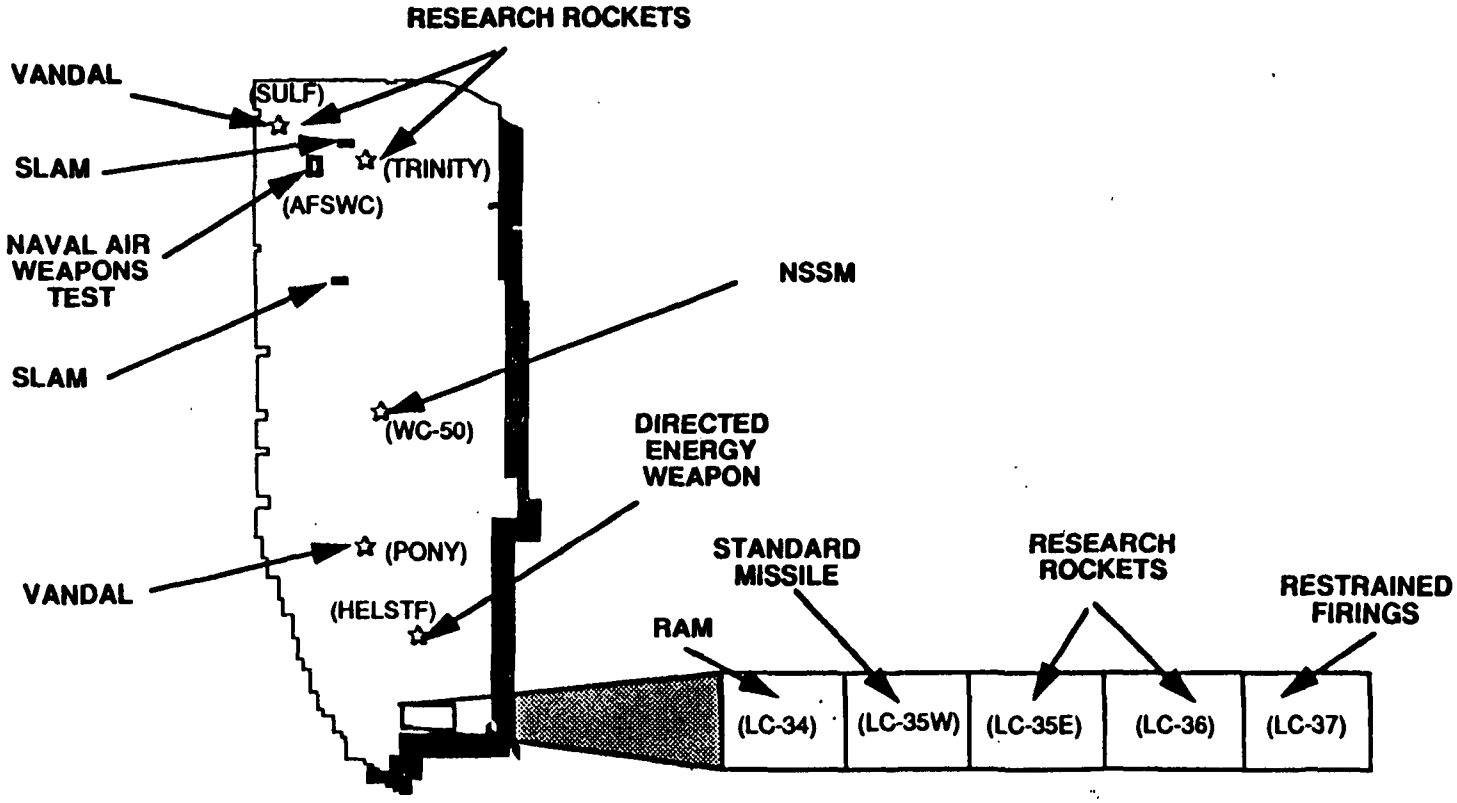
NAVY TARGETS

- VANDAL
- AQM-37C(EP)
- HIGH ALTITUDE TARGET SYSTEM
- SPECIALIZED GROUND TGTS

SPACE ROCKETS

- NASA RESEARCH ROCKETS
- LEAP 1-4
- ERINT/PATRIOT TARGET
- HEDI KITE TARGET
- THAADS TARGET
- COMMERCIAL

NOMTS TEST SITES



RESEARCH ROCKET PROGRAMS AT THE NAVAL ORDNANCE MISSILE TEST STATION

45 YEARS EXPERIENCE IN THE SOUNDING ROCKET BUSINESS, OVER 1070 LAUNCHES.

CUSTOMERS INCLUDE DEPARTMENT OF DEFENSE, NASA AND COMMERCIAL.

COMPLETE FACILITIES FOR PAYLOAD BUILD-UP AND INTEGRATION, ORDNANCE STORAGE, LAUNCH AND RECOVERY.

FULL CAPABILITY OF WHITE SANDS MISSILE RANGE FOR DATA COLLECTION.

PERFECT SAFETY AND SECURITY RECORD.

6 LAUNCHERS ARE AVAILABLE; 8 ROCKET TYPES HAVE BEEN FLOWN.

RESEARCH ROCKETS
BOOSTER CAPABILITY

BOOSTER	LAUNCH COMPLEX	LAUNCHER TYPE
BLACK BRANT	LC-35W; LC-36	TOWER (3FIN); TOWER 4 FIN, RAIL
TERRIER - BLACK BRANT	LC-35W; LC-36	TOWER (3FIN); TOWER 4 FIN, RAIL
NIKE - BLACK BRANT	LC-35W; LC-36	TOWER (3FIN); TOWER 4 FIN, RAIL
ARIES	LC-36	STOOL, ATHENA RAIL
	SULF	STOOL, STARBIRD RAIL (PROPOSED)
ORION	LC-36	RAIL
	SMR (PROPOSED)	
TARUS - ORION	LC-36	RAIL
	SMR (PROPOSED)	
NIKE - ORION	LC-36	RAIL
	SMR (PROPOSED)	

PLANNED BOOSTER CAPABILITY

SERGEANT-M57	SULF	STOOL, STARBIRD RAIL (PROPOSED)
	LC-36	STOOL, ATHENA RAIL
MIST	VARIOUS	VARIOUS

CURRENT BOOST CAPABILITIES

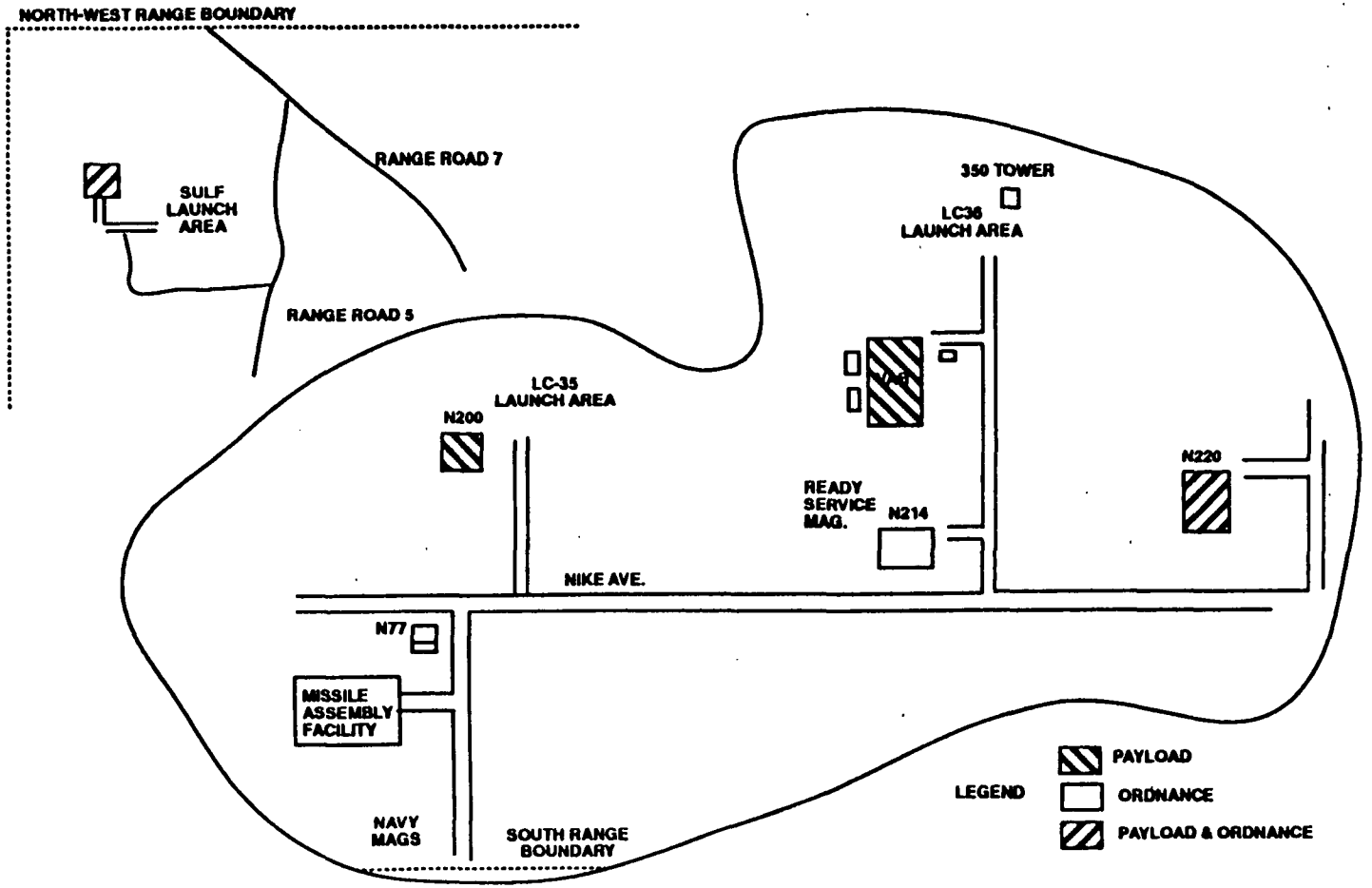
PROPULSION	ALTITUDE (MILES)	PAYLOAD (LBS)	LAUNCHERS
BLACK BRANT (BB)	95/200	920/375	3,4 FIN TOWERS 7.5K RAIL
TERRIER / BLACK BRANT (TBB)	145/235	1050/560	3,4 FIN TOWERS 7.5K RAIL
NIKE / BLACK BRANT (NBB)	125/230	1020/490	3,4 FIN TOWERS 7.5 RAIL
ARIES (MM STAGE 2)	75/360	5200/1000	STOOL (NORTH, SOUTH)
ORION	24/100	290/50	4.3K RAIL (INACTIVE)
NIKE / ORION	90/130	300/70	7.5K RAIL
TAURUS / ORION	125/215	330/80	7.5K RAIL
SERGEANT/M57	TBD	TBD	STOOL (NORTH, SOUTH)

NOTES: 1) 40K (54 FT) RAIL LAUNCHER COMPATIBLE WITH BB, TBB, NBB, AND ARIES IS BEING INSTALLED IN EARLY 1992 AT LC-36. THIS LAUNCHER WILL PROVIDE INCREASED CAPABILITY FOR PLANNED BOOSTERS.

2) RAIL LENGTHS ARE 37 FT (7.5K LAUNCHER), 140 FT (3 FIN TOWER LAUNCHER) AND 160 FT (4 FIN TOWER LAUNCHER).

3) 50K STARBIRD LAUNCHER MAY BE INSTALLED AT SULF SITE IN 1992.

RESEARCH ROCKETS ORDNANCE AND PAYLOAD ASSEMBLY AREAS



ORDNANCE AND PAYLOAD ASSEMBLY

ORDNANCE ASSEMBLY

BUILDING	DIMENSIONS	SQ. FT.	NEW	REMARKS
N-77-S	20X60	1,200	12,000	(DELETE IN 2ND QTR 92)
MAF	72X40	2,880	5,500	(ADD IN 2ND QTR 92)
N-220	29X70	2,030	4,000	
N-214	39X28	1,092	8,000	(READY IN SERVICE MAG)
SULF	28X60	1,680	11,000	
350 TOWER RUNWAY	66X15	990	4,500	(BACK UP)

PAYLOAD ASSEMBLY

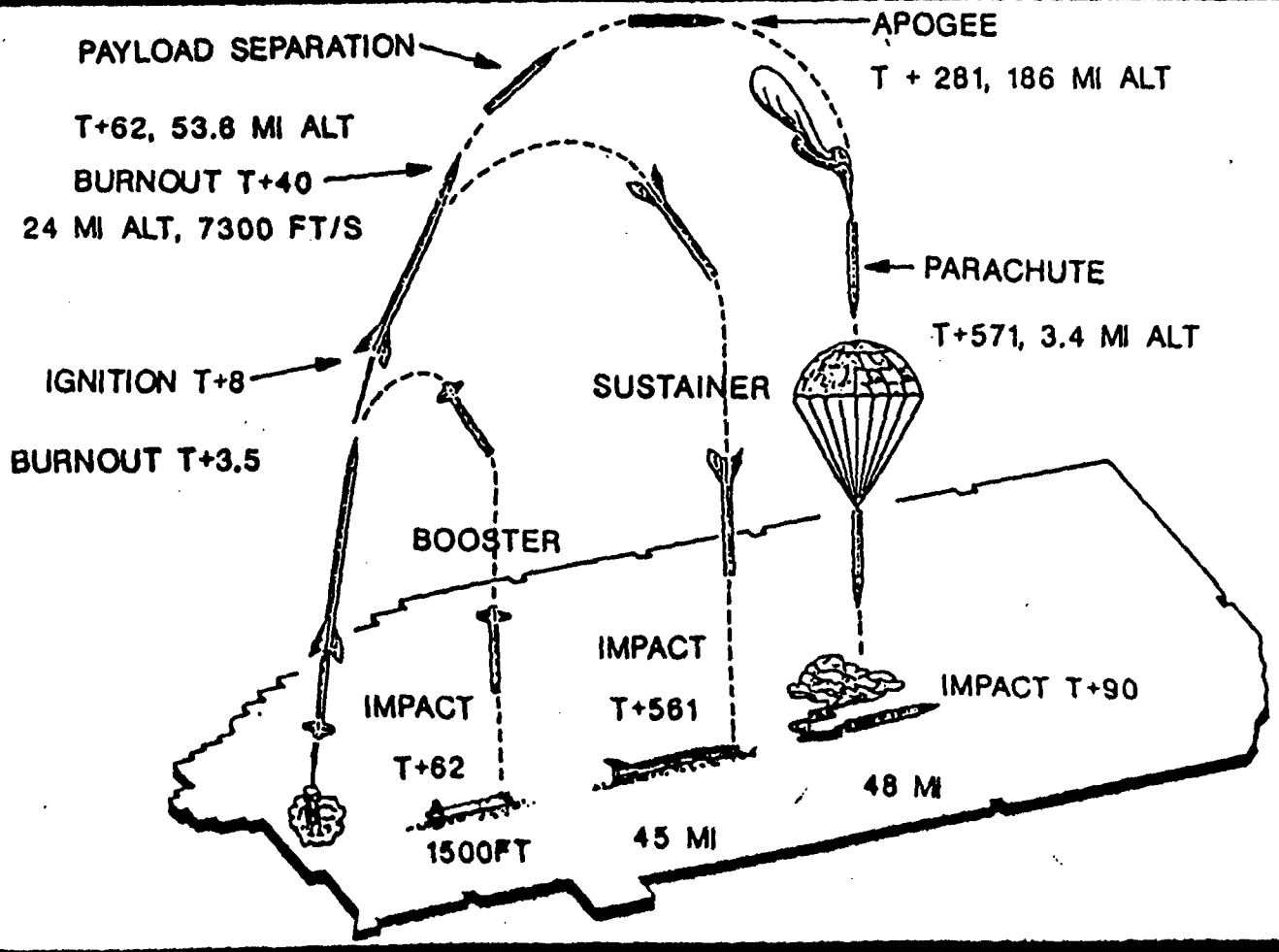
N-200 6,500 SQ. FT. (INCLUDES OFFICES, LABS, BUILDUP AREA)
ALSO CONTAINS GROUND STATION, OPTICS LAB, UPLINK STATION

VAB - HIGH BAY 60X40 - 54' HOIST HEIGHT; LOW BAY 80X40-32' HOIST HEIGHT WITH 19'Wx32'H DOOR.
ALSO CONTAINS GROUND STATION, VIBRATION, SPIN BALANCE, BENT

N-220 2030 SQ. FT.

SULF 2760 SQ. FT.

TYPICAL NIKE BLACK BRANT LAUNCH



NOMTS RESEARCH ROCKET SERVICES

RANGE SPONSOR

- REVIEW/FORWARD ALL RANGE DOCUMENTATION
- COORDINATE SERVICES/MEETINGS WITH NATIONAL RANGE
- SCHEDULE PRELAUNCH AND LAUNCH TESTS

FACILITIES AND EQUIPMENT

- SCHEDULE USE OF NOMTS FACILITIES FOR ROCKET MOTOR AND PAYLOAD ASSEMBLY, PAD INTEGRATION, PRELAUNCH TESTS, LAUNCHES
- GROUND SAFETY AND SECURITY
- ENGINEERING AND FABRICATION SERVICES
- ORDNANCE STOWAGE
- CRANE, FORKLIFTS, AND OTHER HANDLING EQUIPMENT

MISSION MANAGEMENT

- PROCURE CONSUMABLES, FACILITY MODIFICATION ITEMS, SPECIAL EQUIPMENT
- BUDGET ESTIMATES, FUNDS DISPURSEMENT AND EXPENDITURE REPORTS
- LOAD, COUNTDOWN AND LAUNCH OPERATIONS
- TECHNICAL SUPPORT
- PAO WITH WSMR

NOMTS/WSMR/ARMTE

NOMTS

- TEST SUPPORT PLANNING
- RANGE SPONSOR
- MISSION SCHEDULING
- ORDNANCE HANDLING
- TARGET AUGUMENTATION
- TEST SITE PREPARATION
- SAFETY
- SECURITY

NATIONAL RANGE

- RANGE SUPPORT PLANNING
- SC/OD DOCUMENTATION
- RANGE SCHEDULDING
- FLIGHT SAFETY
- SAFETY ENGINEERING
- DATA REDUCTION & ANALYSIS

MISSION SUPPORT

- MISSION CONTROL
- REAL TIME SYSTEMS
- INSTRUMENTATION
  - TELEMETRY
  - RADAR (BEACON CKS)
  - TRACKING CAMERAS
  - NON-TRACK CAMERAS
  - VIDEO
- COMMUNICATIONS
- FREQUENCY SURVEILLANCE
- AREA SURVEILLANCE
- ROADBLOCKS
- RECOVERY/EOD

ARMTE

- CHEMISTRY LAB
- X-RAY LAB
- DYNAMIC ENVIRONMENT LAB
  - SHOCK/VIBRATION/NOISE
  - COMBINED CLIMATIC
- MICROBIOLOGICAL
- ELECTROMAGNETIC

OTHER

- ASL - METEOROLOGY
- DMA - GEODETIC SURVEY
- DOD-AFC - FREQ. COORDINATOR
- EL-PM - MASTER PLANNING
- EL-N - ENVIRONMENTAL OFFICE
- EL-LM - TRANSPORTATION
- MICOM - CALIBRATION LAB
- MICOM - TARGETS
- ASQNC-TWS - COMMUNICATIONS
- HAFB - 6585 TEST SQUADRON

NASA FACILITIES

PAYLOAD SPIN BALANCING AND VIBRATION

REAL TIME METEOROLOGICAL LAUNCH ANALYSIS (REAL TIME AT WALLOPS)

STAR COLLIMATION AND SUN SENSOR CALIBRATION (LOCKHEED)

PSL/NMSU CONTRACTOR SUPPORT (VIA NASA OR PSL)

- TELEMETRY
- BLACK BRANT IGNITOR HOUSING FTS MODS
- ORSA ACCEPTANCE TESTING
- RANGE PRECISION ACQUISTION SYSTEM DISPLAY AT LC36

STADS CONTRACTOR SUPPORT

- LAUNCH PAD PREPARATIONS
- LAUNCH OPERATIONS

COMMERCIAL SPACE LAUNCH HISTORY

SPACE SERVICES INCORPORATED, HOUSTON, TX

- THREE LAUNCHES - MAR 89; NOV 89; MAY 90
- PURPOSE: MATERIALS DEVELOPMENT IN MICROGRAVITY
- PAYLOAD USERS: U ALABAMA (HUNTSVILLE)
- BOOSTERS: TERRIER BLACK BRANT

SPACE SERVICES DIVISION/ENGINEERING ECONOMIC RESEARCH INC, SEABROOK, MD

- *LAUNCH PLANNED FOR 13 NOV 91*
- PURPOSE: MATERIALS DEVELOPMENT IN MICROGRAVITY
- PAYLOAD USERS: U ALABAMA (HUNTSVILLE)
- BOOSTERS: TERRIER BLACK BRANT

SPACE DATA DIVISION/ORBITAL SCIENCES CORPORATION, CHANDLER, AZ

- FOUR LAUNCHES OF LIGHTWEIGHT EXO-ATMOSPHERIC PROJECTILE (LEAP) IN FY 92
- PURPOSE: LEAP INTERCEPT OF THRUSTING TARGET
- PAYLOAD USER: SDIO

COMMERCIAL SPACE LAUNCH ACT LAUNCH UNIQUE REQUIREMENTS

FOR USE OF NOMTS FACILITIES/SERVICES

- DOT LICENSE
- MEMORANDUM OF AGREEMENT WITH NAVY
- INSURANCE IN PLACE BEFORE WORK BEGINS (LEVELS PRESCRIBED IN NAVY MOA)

FOR USE OF OTHER WSMR FACILITIES/SERVICES

- NATIONAL RANGE VIA OPERATIONS REQUIREMENT DOCUMENT THRU NOMTS
- ARMTE VIA LETTER THRU NOMTS
- NASA VIA MOA/NEGOTIATION DIRECT WITH NASA

CUSTOMER RESPONSIBILITIES

DETAILS ARE DISCUSSED AT KICKOFF MEETING

- OBTAIN DOT LICENSE, NAVY MOA AND INSURANCE
- ESTABLISH AGREEMENTS FOR NASA FACILITIES/SERVICES
- PROVIDE FUNDING
- PREPARE NOMTS AND RANGE DOCUMENTATION
- DEFINE ALL OPERATIONS HAZARDS AND HERO SUSCEPTIBILITY DATA
- PROVIDE CERTIFIED ORDNANCE HANDLING EQUIPMENT (NWS EARLE, NJ), ORDNANCE HANDLERS, AND SSOPs
- PROVIDE RANGE TECHNICAL DATA FOR FLIGHT TRAJECTORIES, FAILURE MODES AND EFFECTS, IMPACT FOOTPRINTS/PROBALILITIES, FTS QUALIFICATION AND OTHER DATA
- IDENTIFY ENVIRONMENTAL HAZARDS THROUGH FORMAL DOCUMENT WITH RANGE AND STATE (IF NEEDED)
- DEFINE ASSEMBLY/PAD SUPPORT INTERFACE REQUIREMENTS (POWER, CLEAN ROOM, HVAC, ETC) IN FLIGHT REQUIREMENTS PLAN
- IDENTIFY PROPRIETARY INFORMATION
- OBTAIN RADIO FREQUENCY ASSIGNMENTS (RFAs)

POTENTIAL LONG LEAD TIMES

ENVIRONMENTAL APPROVAL

MASTER PLANNING BOARD APPROVAL

FLIGHT TERMINATION SYSTEM QUALIFICATION

FLIGHT SAFETY DATA. EXOTIC PERFORMANCE ENVELOPES MAY REQUIRE DEVELOPMENT OF SPECIAL FLIGHT SAFETY ANALYSIS SOFTWARE/HARDWARE TOOLS

PROGRAM INTRODUCTION/STATEMENT OF CAPABILITY DOCUMENTS APPROVAL

TRANSMITTER TYPE ACCEPTANCE/RFA PROCESS

DOT LICENSE, MOA, INSURANCE PROCESS